Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A medical method for treating a person **whose heart is beating and who is** suffering from an ailment which can benefit from a negative pressure in the thorax, the method comprising:

delivering a positive pressure breath to the person;

extracting respiratory gases from the person's airway using a vacuum following the positive pressure breath to create an intrathoracic vacuum to lower pressures in the thorax to a maintain a negative pressure between 0 mmHg and about -50 mmHg and to enhance blood flow back to the heart **wherein the vacuum is maintained for at least 0.5 second**; and

repeating the steps of delivering positive pressure breaths and extracting respiratory gases to thereby treat said person suffering from said aliment.

2. (Previously Presented) A method as in claim 1, wherein the person is suffering from an ailment selected from a group consisting of head trauma, elevated intracranial pressures, low blood pressure, low blood circulation, low blood volume, cardiac arrest, hypotension, shock, hypertension, intraocular pressures and heart failure.

3. (Original) A method as in claim 1, further comprising regulating the amount of intrathoracic vacuum using a threshold valve that is in fluid communication with the person's airway.

4. (Original) A method as in claim 3, wherein the threshold valve is configured to open when the person's negative intrathoracic pressure reaches about -3 cm H2O to about -20cm H2O to permit respiratory gases to flow into the person's airway.

5. (Original) A method as in claim 3, further comprising stopping application of the vacuum when applying the positive pressure breath using a switching arrangement.

6. (Original) A method as in claim 1, wherein the positive pressure breath is delivered using source selected from a group consisting of a mechanical ventilator, a hand held bag valve resuscitator, mouth-to-mouth, or a means to provide intermittent positive pressure ventilation.

7. (Original) A method as in claim 1, wherein the respiratory gases are extracted with a constant extraction, varied over time, or a pulsed extraction.

8. (Original) A method as in claim 1, wherein the breath is delivered for a time in the range for about 250 milliseconds to about 2 seconds.

9. (Original) A method as in claim 1, wherein the breath is delivered at a rate in the range from about 0.1 liters per seconds to about 5 liters per second.

10. (Previously Presented) A method as in claim 1, wherein the vacuum is maintained at a pressure in the level from about -2 cm H_2O to about -20 cm H_2O.

11. (Original) A method as in claim 10, wherein the vacuum is maintained with negative flow or without flow.

12. (Original) A method as in claim 1, wherein the time the positive pressure breath is supplied relative to the time in which respiratory gases are extracted is in the range from about 0.5 to about 0.1.

13. (Original) A method as in claim 1, wherein the respiratory gases are extracted using equipment selected from a group consisting of a mechanical ventilator, a vacuum with vacuum regulator, a phrenic nerve stimulator, an extrathoracic vest, a ventilator bag, and an iron lung cuirass device.

14. (Original) A method as in claim 1, wherein the respiratory gases are lowered to an intrathoracic pressure of about -5 mmHg to about -10 mmHg and then kept generally constant until the next positive pressure breath.

15. (Original) A method as in claim 1, wherein the positive breath is slowly delivered and the respiratory gases are rapidly lowered to an intrathoracic pressure of about -5 mmHg to about -20 mmHg and then gradually reduced towards about 0 mmHg.

16. (Original) A method as in claim 1, wherein the respiratory gases are slowly lowered to a pressure of about – 5 mmHg to about -20 mm Hg.

17. (Currently Amended) A device for lowering intrathoracic pressures, the device comprising:

a means to interface with the patient's airway;

a means to repeatedly extract respiratory gases from the patient's lungs and airway to create and periodically maintain a negative intrathoracic pressure;

a means to repeatedly regulate the extraction of respiratory gases within the patient's lungs and airway **such that the gases are extracted for at least 0.5 second**; and

a means to deliver a positive pressure breath, to periodically provide inspiration of respiratory gases.

18. (Original) A device as in claim 17, wherein the means to extract respiratory gases comprises vacuum source selected from a group consisting of a suction line or venturi device attached to an oxygen tank

19. (Original) A device as in claim 17, further comprising a switching mechanism to stop the extraction of respiratory gases during delivery of a positive pressure breath, wherein the switching mechanism is selected from a group consisting of mechanical devices, magnetic devices, and electronic devices.

20. (Original) A device as in claim 17, wherein the means for extracting respiratory gases is selected from a group consisting of a mechanical ventilator, a vacuum with vacuum regulator, a phrenic nerve stimulator, an extrathoracic vest, a ventilator bag, and an iron lung cuirass device.

21. (Original) A device as in claim 17, wherein the means for regulating comprises a threshold valve that is in fluid communication with the person's airway.

22. (Original) A device as in claim 21, wherein the threshold valve is configured to open when the person's negative intrathoracic pressure reaches about -3 cm H2O to about -20cm H2O to permit respiratory gases to flow into the person's airway.

23. (Original) A device as in claim 17, wherein the means for delivering a positive pressure breath is selected from a group consisting of a mechanical ventilator, a hand held bag valve resuscitator, mouth-to-mouth, or a means to provide intermittent positive pressure ventilation.

24. (Currently Amended) A device for lowering intrathoracic pressures, the device comprising:

a housing having an interface that is adapted to couple the housing to the person's airway;

a vacuum source in fluid communication with the housing for repeatedly extracting respiratory gases from the person's lungs and airway to create and periodically maintain a negative intrathoracic pressure **for at least 0.5 second**;

a vacuum regulator to regulate the extraction of respiratory gases from the patient's lungs and airway **such that the negative intrathoracic pressure is maintained for at least 0.5 second**; and

a positive pressure source in fluid communication with the housing for intermittently supplying positive pressure breaths to the person.

25. (New) A medical method for treating a person suffering from an ailment which can benefit from a negative pressure in the thorax, the method comprising:

delivering a positive pressure breath to the person;

extracting respiratory gases from the person's airway using a vacuum following the positive pressure breath to create an intrathoracic vacuum to lower pressures in the thorax to a maintain a negative pressure between 0 mmHg and about -50 mmHg and to enhance blood flow back to the heart, wherein the vacuum is maintained for at least one second; and

repeating the steps of delivering positive pressure breaths and extracting respiratory gases to thereby treat said person suffering from said aliment.